

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
12 May 2005 (12.05.2005)

PCT

(10) International Publication Number  
**WO 2005/041632 A2**

(51) International Patent Classification: Not classified

(21) International Application Number:  
PCT/US2004/036260

(22) International Filing Date: 28 October 2004 (28.10.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
60/516,382 31 October 2003 (31.10.2003) US

(71) Applicant (for all designated States except US):  
PHOSEON TECHNOLOGY, INC. [US/US]; 14974  
N.W. Greenbrier Parkway, Beaverton, OR 97006 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): ANDERSON,  
Duwayne R. [US/US]; 34190 Hankey Road, Saint Helens,  
OR 97051 (US). JASMIN, Roland, Jr. [US/US]; 5693  
Victoria Court, Lake Oswego, OR 97035 (US).

(74) Agents: WOLFE, James L. et al.; Ganz Law, P.C., P.O.  
Box 2200, Hillsboro, OR 97123 (US).

(81) Designated States (unless otherwise indicated, for every  
kind of national protection available): AE, AG, AL, AM,  
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,  
CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI,  
GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE,  
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,  
MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG,  
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,  
TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM,  
ZW.

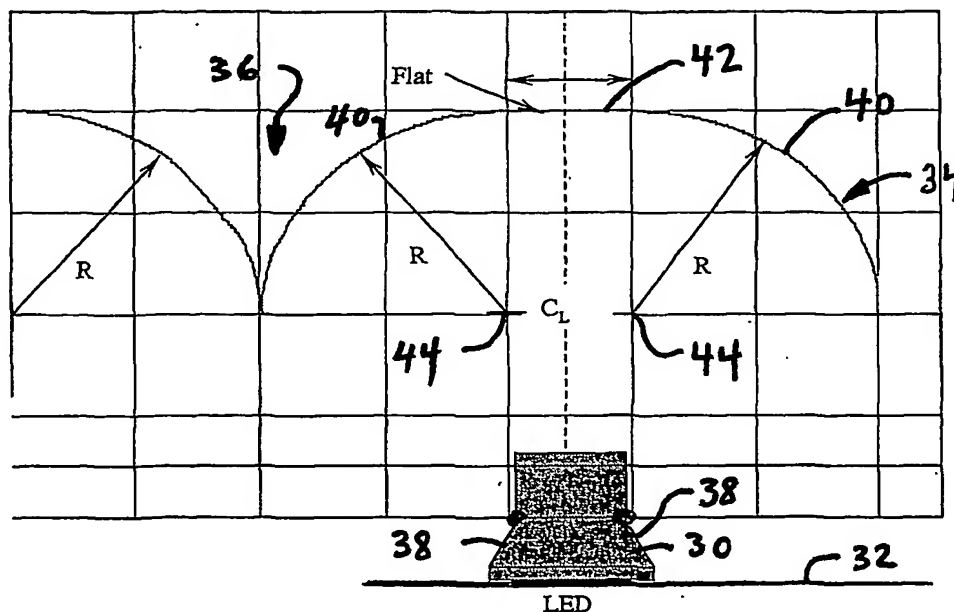
(84) Designated States (unless otherwise indicated, for every  
kind of regional protection available): ARIPO (BW, GH,  
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,  
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),  
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,  
FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI,  
SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
GW, ML, MR, NE, SN, TD, TG).

Published:

— without international search report and to be republished  
upon receipt of that report

[Continued on next page]

(54) Title: COLLECTION OPTICS FOR LED ARRAY WITH OFFSET HEMISPHERICAL OR FACETED SURFACES



(57) Abstract: An array of LEDs is provided having a lens array for collecting divergent light from each LED. Each lens in the array is associated with a respective LED and has a compound shape including a curved surface that may be spherical or may have an offset aspherical shape. The curved surfaces are centered about each side of its associated LED. The lens may alternatively include faceted surfaces that approximate the curved lens surface.



---

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*